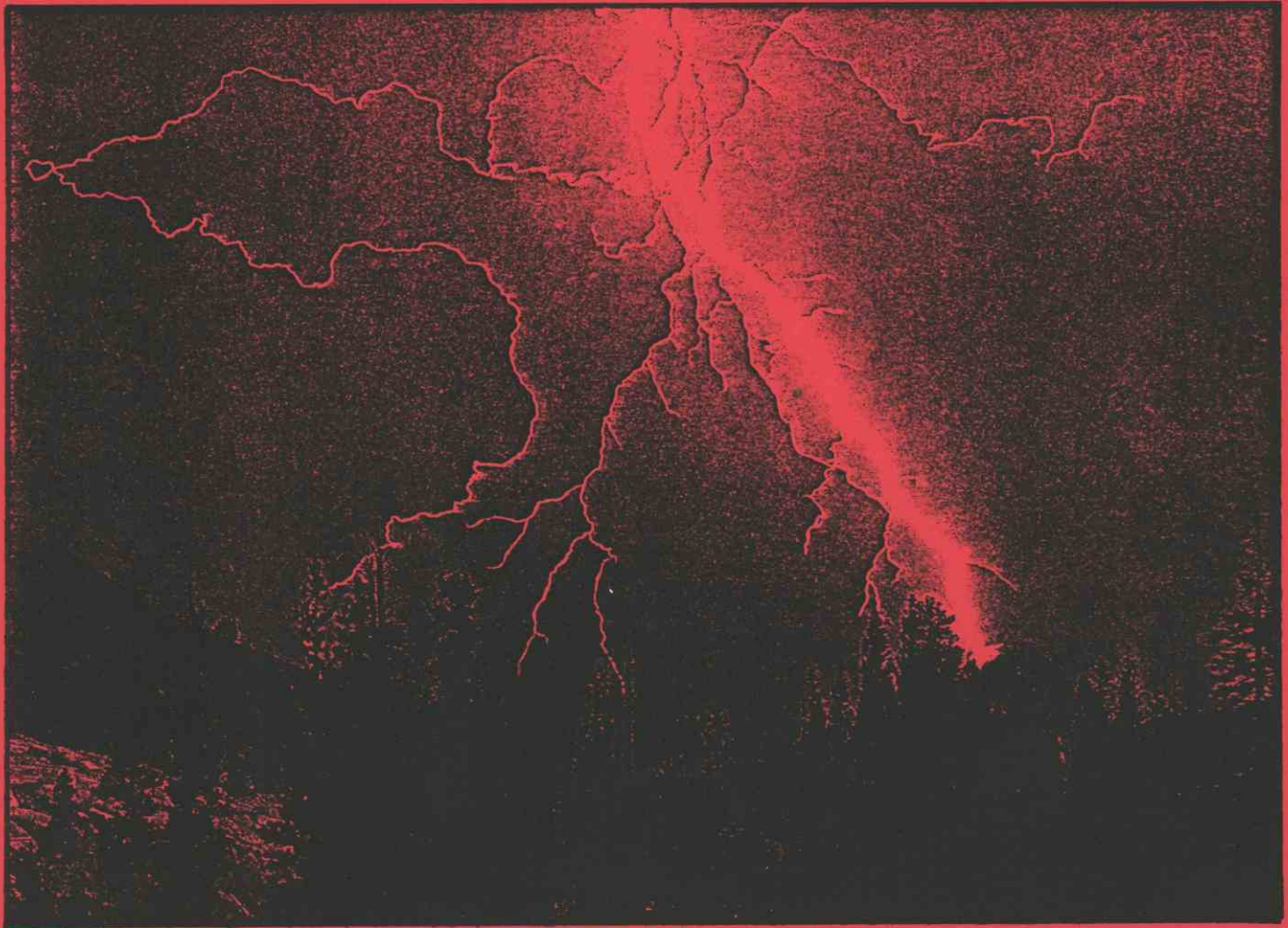


THE CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

AUTOMATIC LIGHTNING DETECTION SYSTEM

# USERS MANUAL



APRIL 1989



The California Department of Forestry  
And Fire Protection  
Automatic Lightning Detection System

USER'S MANUAL

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## Introduction

This User's Guide will give you a working knowledge of the CDF Automatic Lightning Detection System (ALDS). ALDS was developed by CDF personnel using lightning strike data from the USDI Bureau of Land Management lightning detection network.

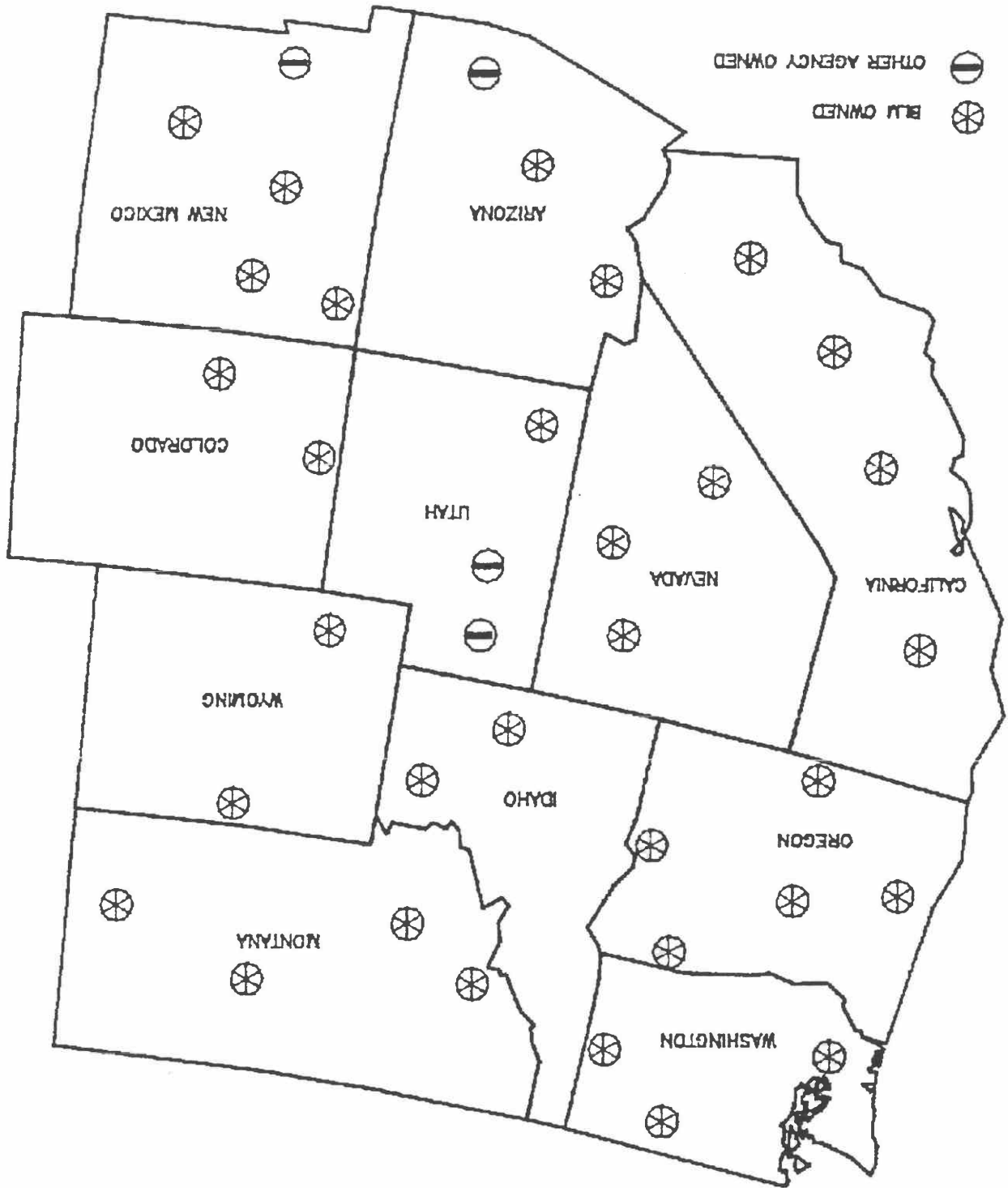
### The BLM Lightning Detection Network

The modern era of lightning detection began in the early 1970s when the Bureau of Land Management, following efforts by Canadian authorities, designed and installed a lightning detection system in Alaska. Previously, fire fighting agencies had been wholly dependent on fire lookouts for down strike information. The automatic sensors dramatically improved the accuracy of lightning detection, allowing officials to investigate problem areas quickly and mobilize their units more effectively.

The Alaskan system became fully operational in 1976 and was so successful that the BLM soon expanded it to the rest of the country. By 1980, the eleven western states were all covered by thirty-three lightning sensors in the BLM's automatic lightning detection network.

The lightning sensor is essentially a broad band direction finding system. It detects the unique magnetic and electrical signals produced by lightning flashes and calculates their direction with an accuracy of  $\pm 1$  degree (this is a maximum error of 1.7 miles, if the strike is 100 miles from the sensor). It also analyzes the flash and disregards all but cloud-to-ground lightning strikes. Information including the angle, polarity, signal amplitude, and the number of return strokes of the flash is then transmitted via satellite to the Position Analyzer (PA) microprocessor at the Interagency Fire Center in Boise, Idaho. When two or more lightning sensors detect the same strike, the PA calculates the exact coordinates by triangulation. This data is then transmitted via satellite to all BLM offices. CDF accesses it through the BLM California State Office in Sacramento.

Once CDF receives the information the lightning strike data for California is stored in the Fire Protection Computer. Lightning strike files are made for each day, beginning at 0800 hours.



1987 ALDS  
WESTERN UNITED STATES  
LIGHTNING SENSOR SIGHTS

## The ALDS Program

ALDS allows lightning strike information to be quickly organized onto a map of California. The program can:

- \*Plot lightning strikes by type (positive or negative electrical charge) on a map of the state or any portion of the state. Maps can be tailored and stored according to the user's need.

- \*Plot strikes for any historic strike data file.

- \*Set parameters on the strike data files so only the most recent strikes will be displayed.

- \*Plot the strikes as ``+'''s and ``\*''s or as dots.

- \*Map roads, local landmarks, streams, towns, county lines, and forest service protection boundaries.

- \*Indicate the latitude and longitude, GEOLOC coordinates, and the names of the appropriate 7.5 and 15 minute USGS maps for any location on the map.

- \*Display air attack and helicopter dispatch information for any location on the map.

- \*Give the bearing and distance from the lookouts surrounding a strike.

- \*Display the location of the CDF Remote Automatic Weather Stations with their three letter identifiers.

## Part I Installing the ALDS Software

### System Requirements

The ALDS program requires a minimum of 256 K conventional RAM (random access memory). A graphics adapter, either color or monochrome, is also required. ALDS can use adapters that support either the IBM CGA or Hercules CGA.

ALDS can print on Epson and Epson-compatible printers.

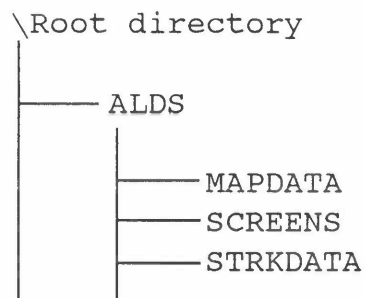
Note: On a local area network, ALDS can only print on a remote printer if a spooler has been activated. Otherwise the printer must be connected to the workstation pc.

Make sure the printer is on before you attempt to print.

### Directory Structure

After you receive the ALDS information disk from CDF, you will need to set up the proper directories on the hard disk, then copy the files into them from the floppy.

Use the MD (DOS Make Directory) command to set up the disk directories with the following structure:



The \ALDS directory contains the ALDS program, font files, and MAKEMAP. The \ALDS\MAPDATA subdirectory contains the digitized mapping files. The \ALDS\SCREENS subdirectory contains user-made maps. The \ALDS\STRKDATA subdirectory contains the daily STRIKE file as well as any historic strike files which you have saved. See Appendix 2 for a complete list of files.

To run the program, either change directories to the ALDS directory and enter the ALDS command, or make a batch file that changes directories to the ALDS directory and starts the program.



## Part II Strike Data Files

To obtain the lightning strike data, you need to call the CDF computer in Sacramento. The following instructions are based on the XTALK communication software program for MS-DOS micro-computers. Other communication software programs will work but the specific steps and terminology may need to be modified.

If you do not already have access to the CDF computer, contact CDF in Sacramento to obtain a passcode.

California Department of Forestry and Fire Protection  
Fire Protection Planning and Research  
P. O. Box 944246  
Sacramento, CA 94244-2460

Dennis Sevedge (916) 445-9424  
Dave Sharpe (916) 445-9419

### Sign-On Procedures

1. Set modem:

Speed = 1200  
Data = 8  
Parity = None  
Stop = 1

2. Call (916) 323-2540

3. After connection, type **CONTROL-S !** (exclamation point).

If the log-in prompt does not appear, type CONTROL-S ! again. If you hit CONTROL-S ! several times without getting a prompt, you are not properly connected. Break the connection and call again.

4. At the log-in prompt, enter your log-in i.d., then your passcode. USE CAPITAL LETTERS.

5. Type \ALDS after responding to questions about mail. This calls up the ALDS menu.

### Current Strike Data

1. Sign on to the CDF computer and type \ALDS, as described above.
2. Turn CAPTURE on. The capture file should be named STRIKES and should be in the \ALDS\STRKDATA subdirectory.
3. Type GETALDS to get the latest strike data.
4. When the file has been transferred, turn CAPTURE off.
5. Sign off the CDF computer by typing BYE.

### Historic Strike Data

1. Sign on to the CDF computer and type \ALDS.
2. Type \ALDSHIST for a list of historic data files.
3. Return to the main \ALDS menu.
4. Turn CAPTURE on. Give the CAPTURE file the name of the desired file.
5. Type \GETHIST and enter the name of the desired historic file.
6. When the file has been transferred, turn CAPTURE off.
7. Sign off the CDF computer.

## Creating Historic Strike Files

When you call CDF to obtain new strike information you replace your current STRIKES file. To permanently save a particular day's information you either need to rename the file or copy it with a new name. Historic data files must be in the STRKDATA subdirectory.

From DOS, call up the STRKDATA subdirectory:

```
CD\ALDS\STRKDATA
```

Then copy or rename the STRIKES file:

```
COPY STRIKES [new file]
```

or

```
REN STRIKES [new file]
```

A good naming system is to call the new file by the date: ``SEP08'', ``OCT23.87'', ``AUG14.STK'', etc. It doesn't matter what names you use as long as the files are in the STRKDATA subdirectory.

If you save files regularly you will build your own library of historic strike data.

### Part III Using ALDS

If you are using a color monitor, load ALDSCGA. Otherwise, load ALDS.

To load the program, either change directories to the ALDS directory and load ALDS, or first make a batch file that changes directories to the ALDS directory and starts the program.

#### Beginning

ALDS is a fast, simple, and largely self-explanatory program. It is based on a series of four main menus and six submenus and except for a few features which require you to move the cursor, set parameters or enter additional information, it is completely operated by the ten function keys.

After the program loads you will see a map of California, with a distance scale and, at the bottom of the screen, a menu bar showing keys F1 through F7. The number of the current menu bar is indicated in the very lower left hand corner



of the screen. The program always opens with Menu Bar 1.

To advance to the next menu press **F1 NEXT**. Notice that the titles of the function keys change as you move through the menus. The four main menu bars are arranged in a circular fashion so pressing **F1 NEXT** four times returns you to the original menu. If you are in a submenu, pressing **F1 NEXT** returns you to the main menu.

Press **F10** at any time to call up a help screen with information about the menu in which you are working.

## Mapping

ALDS' main strength is its ability to make detailed maps of California tailored to the needs of the user. You can focus on any area of the state and include information about towns, roads, weather stations, etc., as well as lightning strikes.

To make a large scale map of the state, make sure you are in Menu Bar 1 (if not, press **F1 NEXT** until a ``1'' appears in the lower left corner of the screen) and choose the portion of the state you want by pressing **F3 STATE** for the entire state, **F4 NORTH** for northern California, **F5 CENTRAL** for central California, or **F6 SOUTH** for southern California. The computer will replot the map on the screen. Notice that the distance scale changes accordingly.

## Windows

The window feature allows you to zoom in on progressively smaller areas of the state. To use the window feature, first move to Menu Bar 2 and press **F7 WINDOW**. This opens Menu Bar 2A, the window submenu. The window, a small box, will appear in the center of the screen.

Use the arrow keys to move the window to the area of the map that you want to enlarge. The **F7 FAST/SLOW** key toggles between fast window movement (the window ``jumps'' as it moves) or slow (the window moves one dot at a time).

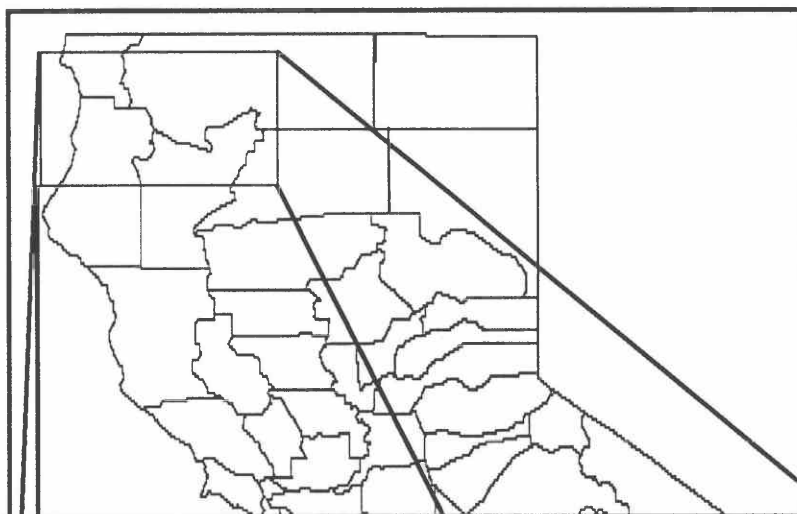
You can make the window smaller or larger by pressing the **F2 SMALLER** or **F3 LARGER** keys.

When the window is where you want, press the **F6 REPLOT** key. The computer will expand the area inside the window to the size of the screen. Notice that the map scale changes accordingly.

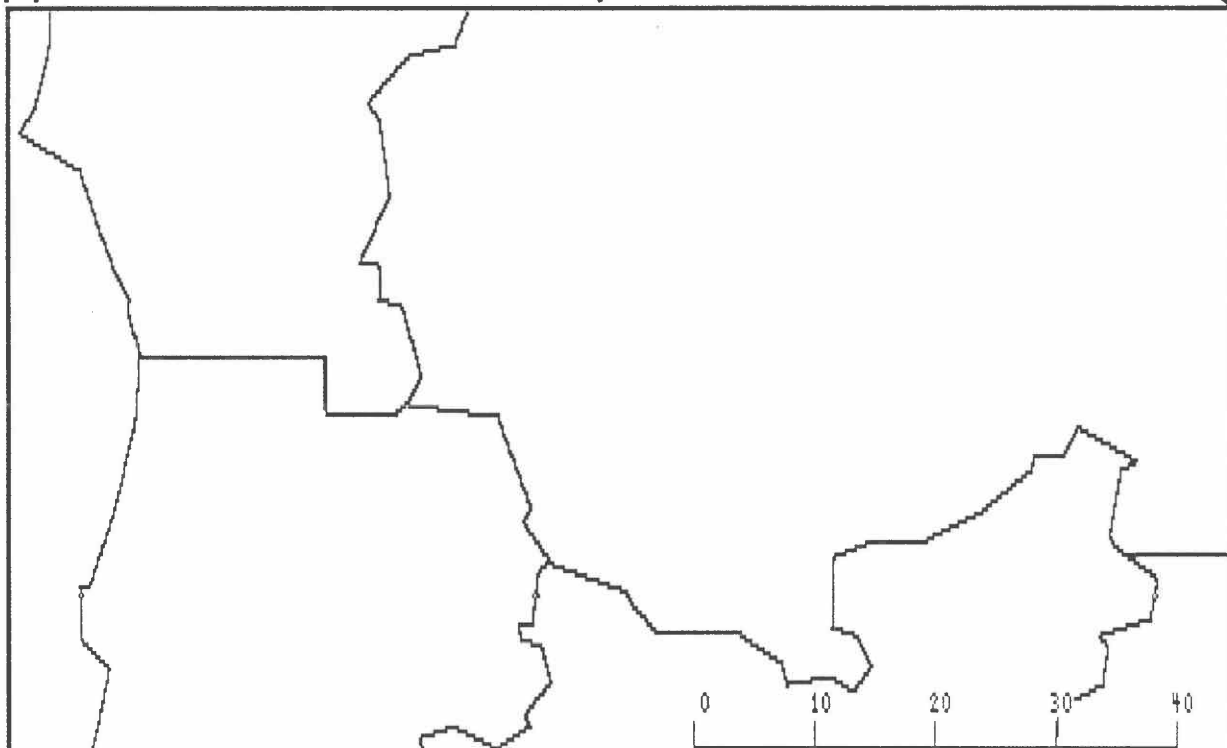
When you change the size of the map you lose anything you have included, such as roads, county lines, strikes, etc. However, you can quickly replot the information by returning to the main menus and using the appropriate function keys.

You can repeat this process several times to focus on an area about 1 mile wide.

To return to a large scale map, use **F1 EXIT** to return to Menu Bar 1 and press **F3 STATE**, **F4 NORTH**, **F5 CENTRAL**, or **F6 SOUTH**.



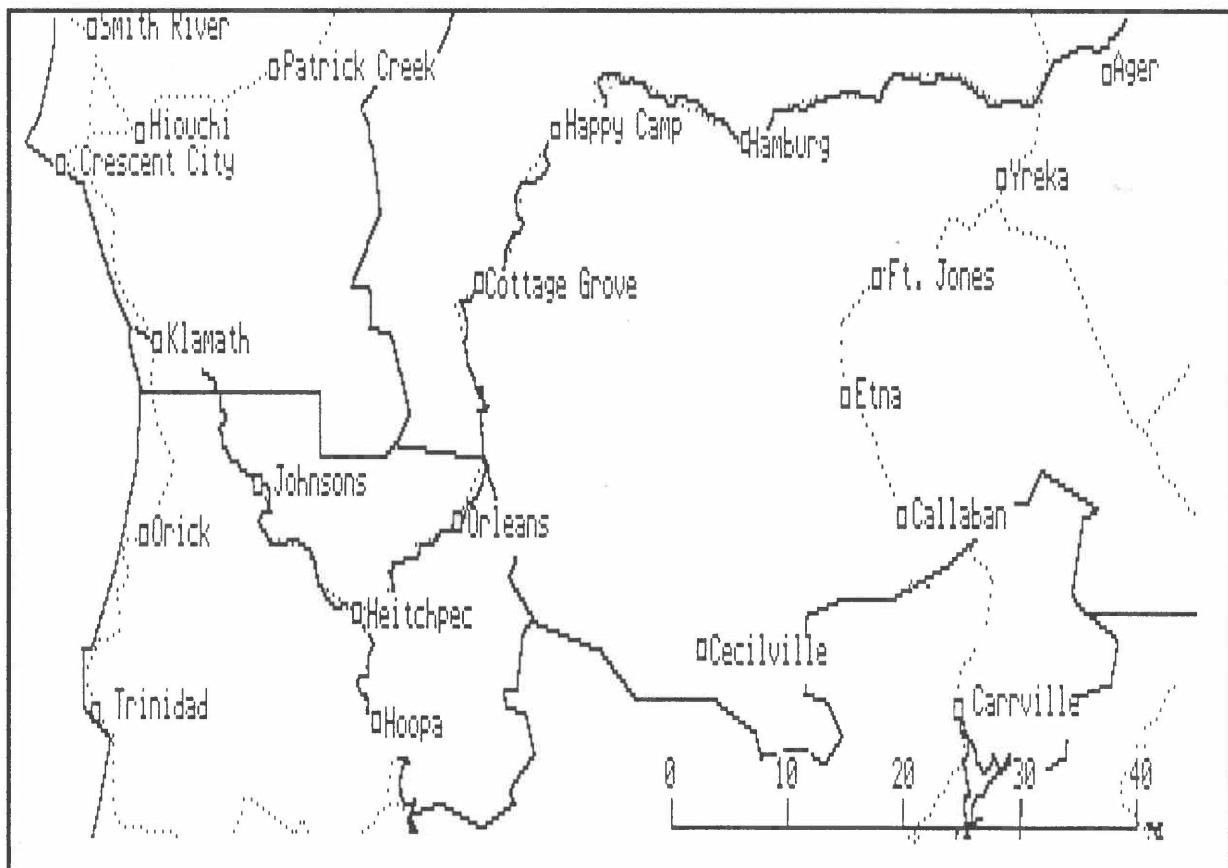
Northern California  
with window on the North  
Coast. County lines and  
other information is not  
automatically enlarged:  
you must add it in again  
using the appropriate  
function keys.



### Adding Information

You can include a great deal of useful information in your map by simply pressing various function keys. From Menu Bar 2, you can plot latitude and longitude tic marks (key **F2 TICS**), roads (**F3 ROADS**), lakes and streams (**F4 STREAMS**), US Forest Service boundaries (**F5 USFS**) and county lines (**F6 COUNTIES**). Menu Bar 3 contains lookouts (**F3 LOOKOUT**), air attack stations and heliports (**F4 AIR DISP**), Remote Automatic Weather Stations (**F5 WEATHER**), towns (**F6 TOWNS**), and, if a landmark file has been created (see Appendix 1), landmarks (**F2 LANDMARK**). More roads and towns appear on smaller scale maps.

ALDS immediately plots the required information on the map as soon as the function key is pushed. **F3 LOOKOUT** and **F4 AIR DISP** also call up submenus which are explained on pages 15 and 16.



North Coast with lakes and streams, towns, and roads.

## Plotting Strikes

To plot lightning strikes, move to Menu Bar 1 and press **F7 STRIKES**. This opens Menu Bar 1b.

Menu Bar 1b lets you plot strikes from the active file or from an alternate file. The active file, labeled STRIKES, is the default file. To open an alternate file, press **F3 ALTERNAT**. This will call up a list of all the files in the \ALDS\STRKDATA directory. Simply enter the file you want. All further plotting will be done from this file until another file is specified.

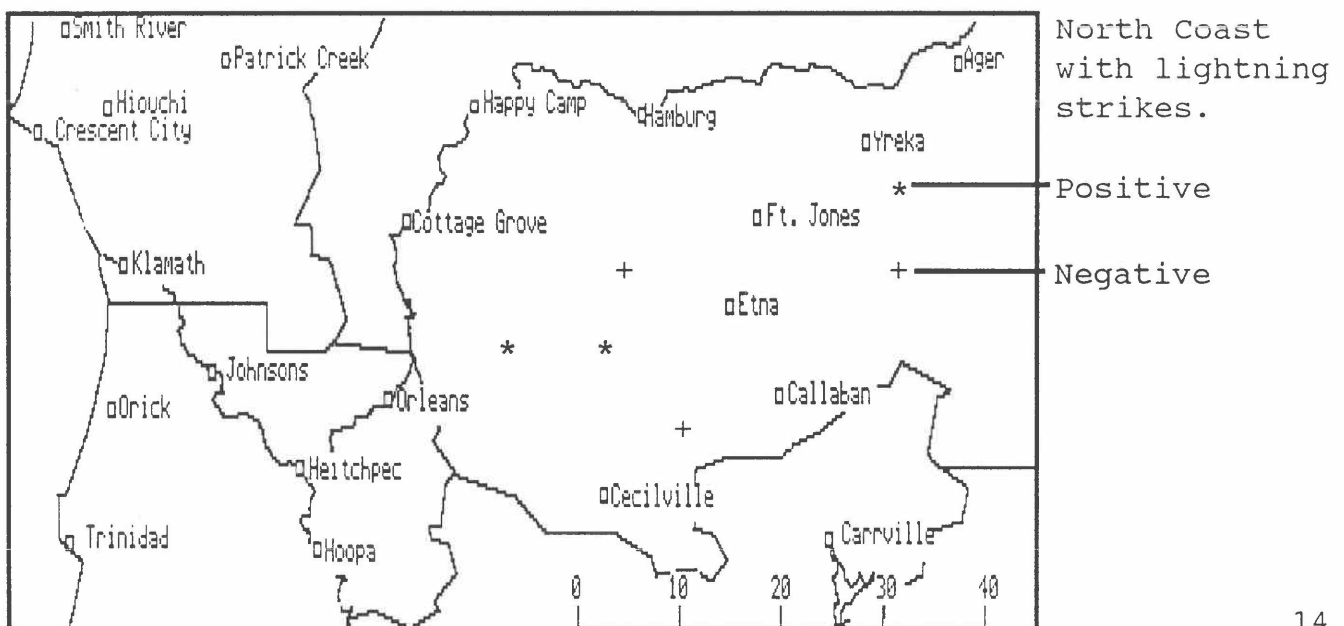
To plot a certain time frame, press **F2 BEG/END** and enter a beginning and ending time. Pressing <RETURN> for the beginning or ending time selects the beginning or end, respectively, of the strike file.

**F6 + AND -** cycles between **+ AND -**, **+ ONLY**, **- ONLY**, and **DOT**, allowing you to plot both positive and negative strikes, positive strikes only, negative strikes only; or, with **F6 DOT**, all strikes as dots. Negative strikes are indicated by plus signs (+), positive strikes by asterixes (\*), unless you activate **F6 DOT**.

To plot strikes on the screen, press **F7 PLOTSTRIK**.

**F5 #/TIMES** displays the number of strikes on the screen and the date and time of the first and last strike.

Press **F1 NEXT** to return to Menu Bar 1.





## Lookouts

This feature contains information about fire lookouts. **F3 LOOKOUT** from Menu Bar 3 plots the lookouts on your map and opens Menu Bar 3a.

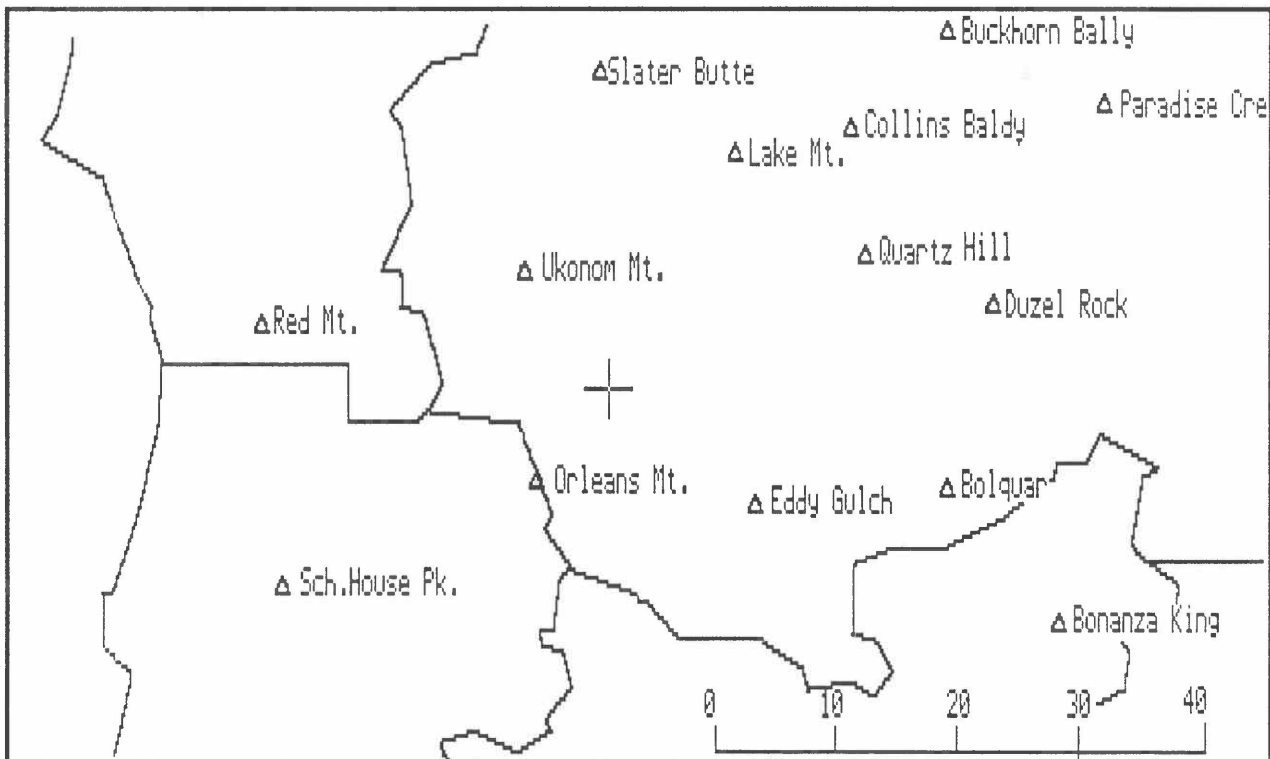
From Menu Bar 3a, press **F3 AZIMUTHS** to learn the azimuth and distance (statute miles) to the cursor from any lookout within 30 miles of the cursor. To return to the map, press **F4 MAP**.

**F2 L.O. RPT** lets you draw sight lines from the cursor to any lookout within 30 miles. The computer asks for the name of the desired lookout and its azimuth from the cursor, then draws the sight line. Learn the azimuths with **F3 AZIMUTH**.

To mark an 'X' on the intersection of 2 or more sight lines, move the cursor to the intersection and press **F5 MARK**. The lines, but not the mark, will disappear when you **F1 EXIT** the submenu.

**F7 FAST/SLOW** toggles between fast and slow cursor movement.

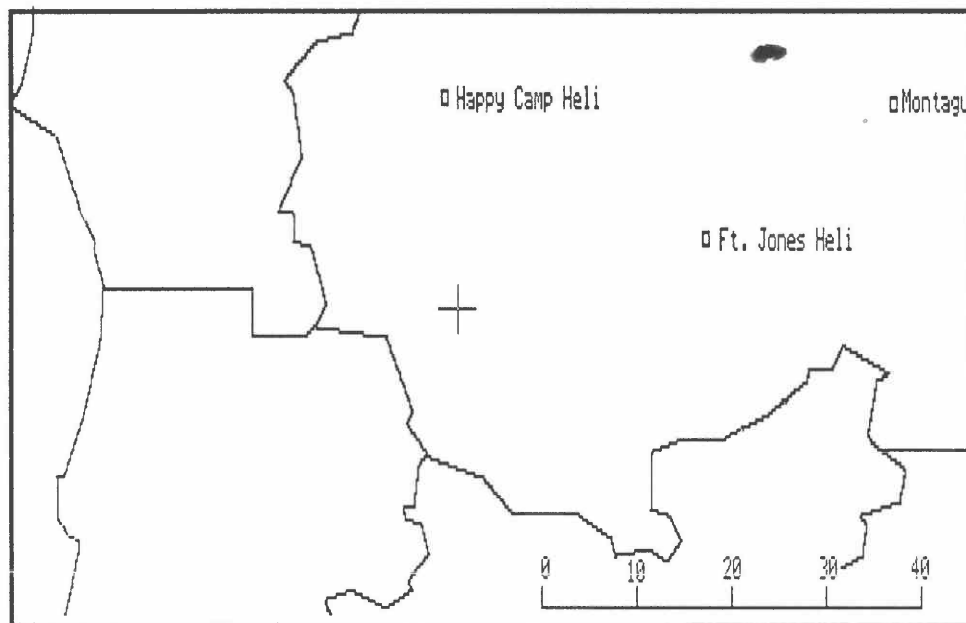
**F6 PRINT AZ** sends the list from **F3** to the printer. Make sure the printer is on before you hit **F6 PRINT AZ**.



North Coast with lookouts.

## Air Dispatch

This feature allows you to access detailed air dispatch information. **F4 AIR DISP** from Menu Bar 3 immediately plots air attack bases and heliports and also opens Menu Bar 3b.



Heliports and air dispatch bases.

From Menu Bar 3b, **F3 AIR BASE** calls up a list of the 19 airtanker bases nearest to the cursor with their bearing and distance, number of aircraft, and respective ICS types. Also displayed is the bearing and distance from all omniranges within 100 miles of the cursor. Information is listed by distance, closest first.

**F4 HELIBASE** displays the same information as **F3 AIR BASE**, but for helicopter bases.

**F2 MAP** returns the map to the screen if dispatch information is currently displayed.

**F6 PRINT** sends the results of **F3 AIR BASE** or **F4 HELIBASE** (whichever was done last) to the printer. If the cursor has been moved since the last use of **F3 AIR BASE** or **F4 HELIBASE**, nothing will be printed. Dispatch information is provided for all airtanker or helicopter bases, not just the 19 above. Make sure the printer is on before you press **F6 PRINT**.

**F7 FAST/SLOW** toggles between fast and slow cursor movement.

**F1 EXIT** returns you to Menu Bar 3.

| Destination      Lat/ Lon = N 41 26.09'    W 123 21.30' |                |                       |               |                 |               |                |                       |
|---|----------------|-----------------------|---------------|-----------------|---------------|----------------|-----------------------|
| <u>Airport</u>  | <u>Bearing</u> | <u>Naut<br/>Miles</u> | <u>Number</u> | <u>ICS Type</u> | <u>Omni</u>   | <u>Bearing</u> | <u>Naut<br/>Miles</u> |
| Siskiyou  | 224            | 45                    | reload        |                 | Fort Jones    | 249            | 25                    |
| Medford   | 181            | 61                    | 9             | 1               | Arcata        | 32             | 43                    |
| Rohnerville   | 15             | 63                    | 79            | 3               | Crescent City | 98             | 45                    |
| Redding   | 301            | 73                    | 7,92,18       | 3,3,1           | Siskiyou      | 223            | 45                    |
| Klamath Falls   | 221            | 85                    | 61,151        | 1,1             | Fortuna       | 22             | 61                    |
| Chester   | 288            | 118                   | reload        |                 | Medford       | 179            | 66                    |
| Chico   | 308            | 120                   | 78,30         | 3,1             | Redding       | 301            | 74                    |
| Ukiah   | 340            | 139                   | 95,96         | 3,3             | Klamath Falls | 221            | 85                    |
| Lakeview  | 234            | 139                   | reload        |                 | Red Bluff     | 310            | 95                    |
| Grass Valley  | 305            | 171                   | 74,75         | 3,3             |               |                |                       |
| Sonoma  | 335            | 177                   | 90,91,86      | 3,3,2           |               |                |                       |
| Reno Stead  | 228            | 191                   | 65            | 1               |               |                |                       |
| Minden  | 296            | 220                   | 87,68         | 2,1             |               |                |                       |
| Stockton  | 319            | 234                   | reload        |                 |               |                |                       |
| Columbia  | 311            | 245                   | 76,77         | 3,3             |               |                |                       |
| Hollister   | 326            | 287                   | 93,94         | 3,3             |               |                |                       |
| Fresno  | 314            | 327                   | 180,61        | 3,1             |               |                |                       |
| Paso Robles   | 325            | 369                   | 15            | 1               |               |                |                       |
| Porterville   | 315            | 381                   | 81,13         | 2,1             |               |                |                       |

List of air attack bases from F3 AIR BASE.

## Locate

The locate feature lets you accurately locate exact positions on the map. Press **F2 LOCATE** from Menu Bar 4 to open Menu Bar 4a, the locate submenu.

From Menu Bar 4a, pressing **F2 MAP NAME** displays 15 minute quadrants (solid lines) and 7.5 minute quadrants (dotted lines) and provides the names of the US Geological Survey topographic maps for the cursor location. The lines will disappear when you move the cursor.

**F3 LAT/LON** calculates the latitude and longitude of the cursor position.

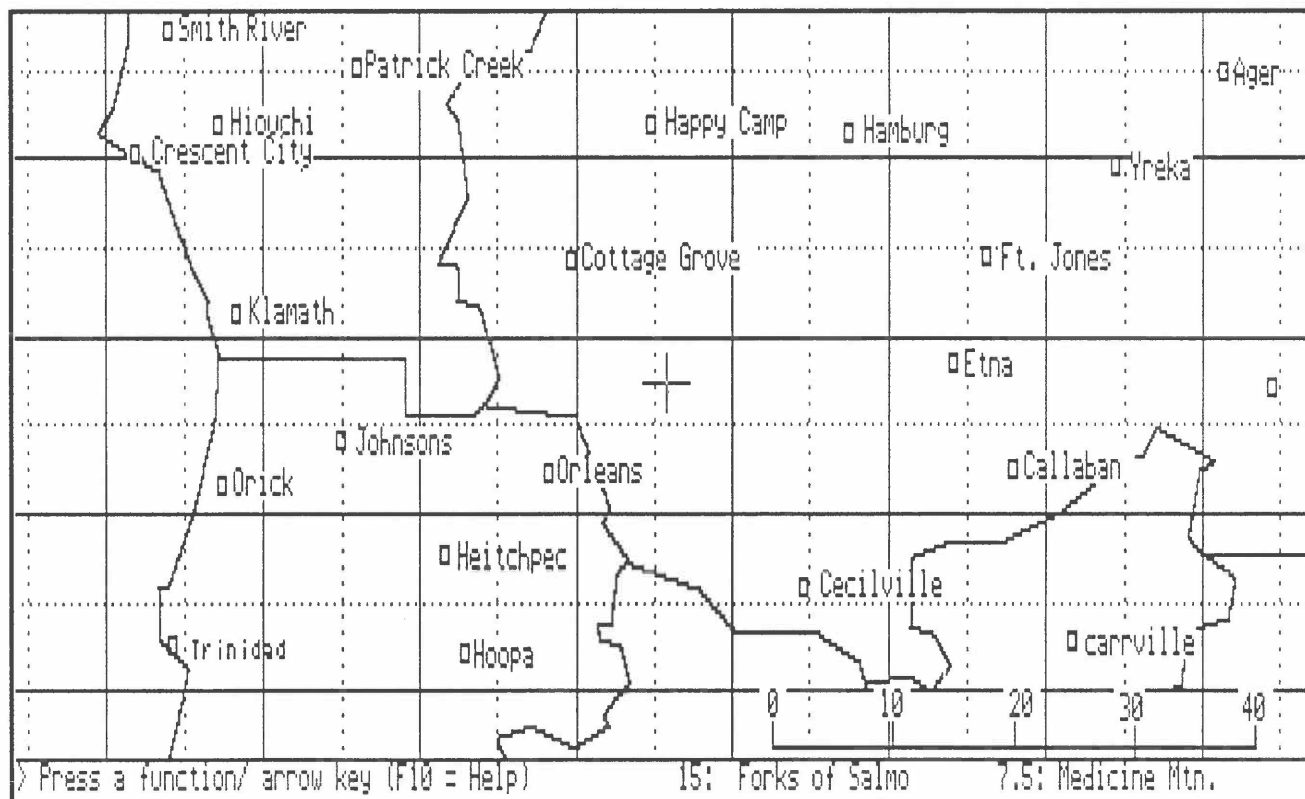
**F4 GEOLOC** displays the GEOLOC coordinates of the cursor position.

To move the cursor to a desired latitude and longitude, press **F5 FIND** and enter the appropriate coordinates.

**F6 MARK X** places an X on the map at the location of the cursor.

**F7 FAST/SLOW** toggles between fast and slow cursor movement.

**F1 EXIT** returns you to Menu Bar 4.



The Map Name feature.

## Saving, Retrieving, and Deleting

**F2 MAP DIR** from Menu Bar 1 calls up Menu Bar 1a, a submenu that allows you to save the maps that you make, retrieve them for later use, or delete them if they are no longer needed.

Note: to abort a save, recall, or delete operation, simply press <RETURN> without typing any characters when prompted for a description or map number.

To save a map, open Menu Bar 1a and press **F4 SAVE**. This calls up a list of previously saved maps. Type a brief description of your map, up to 21 characters long (such as ``Central With Counties'' or ``Sept.88 Strikes''). Then, enter a number 1 through 40. If you enter a map number which is already in use, some of the existing maps will be moved (given new map numbers) to make room.

| #  | Description           | Saved    |       | #  | Description | Saved |
|----|-----------------------|----------|-------|----|-------------|-------|
| 1  | Sonoma Ranger Unit    | 01-16-89 | 16:15 | 21 |             |       |
| 2  | Lake Napa Ranger Unit | 11-18-87 | 13:15 | 22 |             |       |
| 3  | Northern California   | 02-14-88 | 09:13 | 23 |             |       |
| 4  |                       |          |       | 24 |             |       |
| 5  |                       |          |       | 25 |             |       |
| 6  |                       |          |       | 26 |             |       |
| 7  |                       |          |       | 27 |             |       |
| 8  |                       |          |       | 28 |             |       |
| 9  |                       |          |       | 29 |             |       |
| 10 |                       |          |       | 30 |             |       |
| 11 |                       |          |       | 31 |             |       |
| 12 |                       |          |       | 32 |             |       |
| 13 |                       |          |       | 33 |             |       |
| 14 |                       |          |       | 34 |             |       |
| 15 |                       |          |       | 35 |             |       |
| 16 |                       |          |       | 36 |             |       |
| 17 |                       |          |       | 37 |             |       |
| 18 |                       |          |       | 38 |             |       |
| 19 |                       |          |       | 39 |             |       |
| 20 |                       |          |       | 40 |             |       |

Sample directory of maps on file.

To retrieve a map, press **F3 RECALL**. This calls up the directory. Enter the number of the map that you want.

To delete maps from the directory, press **F5 DELETE** and type the desired map number.

To call up the directory, press **F2 LIST**.

**F6 PrintList** prints a copy of the directory. Make sure the printer is on before you press **F6 PrintList**.

### Printing

To print that map that is on the screen, go to Menu Bar 4 and simply press **F6 PRINT**. This sends the map to the printer, along with the quantity of strikes and the date and time of the first and last strikes.

Make sure the printer is on before you hit **F6 PRINT**!

ALDS can only send to a remote printer in a network if a spooler has been activated.

ALDS works with Epson and Epson compatible printers.

### Quitting

To quit ALDS and return to the DOS operating system, go to Menu Bar 4 and press **F7 QUIT**.

**F7 QUIT** does not ask for confirmation but immediately exits the program. If you are in the middle of mapping, be careful that you don't hit **F7 QUIT** by accident.

## Appendix I Creating a Landmark File

To use **F2 LANDMARK** requires a landmark file. If your disk does not include a landmark file, or if you wish to make a new file or add to the existing file, use the **MAKEMAP** program in the **ALDS** directory.

Do not load **ALDS**. Instead, call up the **ALDS** directory, and load **MAKEMAP**:

```
\CD\ALDS  
MAKEMAP
```

To run the program:

1. Enter 1 (to append to an existing file), 2 (to start a new file), or 3 (to quit).
2. Type a name or description of the landmark up to 30 characters long. This description will be printed on the map.
3. Enter the latitude and longitude of the landmark in degrees and minutes.
4. Enter the desired visibility threshold for the landmark. This determines the scale at which the landmark will be displayed. For example, a visibility threshold of 2 means that the landmark will be displayed whenever the screen covers less than two degrees of latitude; 0.5, whenever the screen covers less than 0.5 degrees of latitude. To display the landmark on all scale maps, enter 99. (For reference, the whole state of California covers 9 degrees of latitude.)

## Appendix II Directory Structure

### Directory of C:\ALDS

|         |         |          |         |         |
|---------|---------|----------|---------|---------|
| SCREENS | MAPDATA | STRKDATA | 14X9    | FON     |
| 4X6     | FON     | 8X8      | FON     | 8X9     |
| ALDS    | COM     | ALDSIBM  | 000     | ALDSIBM |
| MAKEMAP | COM     | ALDSCGA  | 000     | ALDSDOT |
| ALDSCGA | COM     |          |         | 000     |
|         |         |          | ALDSDOT | COM     |

### Directory of C:\ALDS\MAPDATA

|              |              |             |             |
|--------------|--------------|-------------|-------------|
| 15MINUTE DAT | 7MINUTE 32   | 7MINUTE 33  | 7MINUTE 34  |
| 7MINUTE 5    | 7MINUTE 6    | 7MINUTE 37  | 7MINUTE 38  |
| 7MINUTE 39   | 7MINUTE 40   | 7MINUTE 41  | AIRHELI MAP |
| AIRTANK DAT  | ALAGEO RDS   | ALMANOR LAK | ALPGEO RDS  |
| AMAGEO RDS   | AMERICAN RIV | BARBHEO RDS | BENTGEO RDS |
| BERNGEO RDS  | BERRYESA LAK | MUTGEO RDS  | CALGEO RDS  |
| CALIF MAP    | CENTRAL COL  | CENTRAL HRC | CLARE LAK   |
| CLAREGEO RDS | CLEAR LAK    | CONGEO RDS  | COUNTY1 MAP |
| COUNTY2 MAP  | CRUZGEO RDS  | CYSGEO RDS  | DELGEO RDS  |
| DIEGOGEO RDS | EAGLE LAK    | EEL RIV     | ELDGEO RDS  |
| FEATHER RIV  | FOLSOM LAK   | FREGEO RDS  | DLEGEO RDS  |
| GOOSE LAK    | HELICPTR DAT | HUMGEO RDS  | HWY1 MAP    |
| HWY2 MAP     | IMPEGEO RDS  | INYGEO RDS  | KERNGEO RDS |
| KLAMITH RIV  | LAGEO RDS    | LAKGEO RDS  | LASGEO RDS  |
| LOOKOUTS MAP | LUISGEO RDS  | MADEGEO RDS | MARGEO RDS  |
| MARPGEO RDS  | MATEOGEO RDS | MCLURE LKA  | MENGEORDS   |
| MENU1 HLP    | MENU10 HLP   | MENU2 HLP   | MENU3 HLP   |
| MENU4 HLP    | MENU5 HLP    | MENU HLP    | MENU7 HLP   |
| MENU8 HLP    | MENU9 HLP    | MERCED RIV  | MERGEORDS   |
| MINMAX DAT   | MODGEO RDS   | MOKELME RIV | MONGEO RDS  |
| MONO LAK     | MONTGEO RDS  | NAPGEO RDS  | BEVGEO RDS  |
| NORTH COL    | NORTH HRC    | OMNI DAT    | ORNGGEO RDS |
| OROVILLE LAK | PEDRO LAK    | PITT RIV    | PLAGEO RDS  |
| PLUGEO RDS   | PREDEF MAP   | RIVSGEO RDS | RUSSHIN RIV |
| SACGEO RDS   | SANJGEO RDS  | SHAGEO RDS  | SHASTA LAK  |
| SIEGEO RDS   | SISGEO RDS   | SONGEO RDS  | SOUTH CAL   |
| SOTH HRC     | STAGEO RDS   | STANIS RIV  | STATE CAL   |
| STATE HRC    | SUYUGEO RDS  | TAHOE LAK   | TEHGEO RDS  |
| TOWNS MAP    | TRIGEO RDS   | TRINITY RIV | TULGEO RDS  |
| TUOGEO RDS   | TUOLM RI     | USFS10 MAP  | USFS11 MAP  |
| USFS12 MAP   | USFS13 MAP   | USFS14 MAP  | USFS1A MAP  |
| USFS1B MAP   | USFS1C MAP   | USFS2A MAP  | USFS3 MAP   |
| USFS4A MAP   | USFS4B MAP   | USFS5 MAP   | USFS6 MAP   |
| USFS7 MAP    | USFS8 MAP    | USFS9 MAP   | VENTGEO RDS |
| WXTA1 MAP    | LANDMARK MAP |             |             |



**Directory of C:\ALDS\SCREENS**

SAVESCR COL            HFI44244 SCR  
HGU54863 SCR           HGU54949 SCR  
HGU55439 SCR

HGU54772 SCR  
HGU55074 SCR

HGU54793 SCR  
HGU55603 SCR

**Directory of C:\ALDS\STRKDATA**

STRIKES  
Historic data files

## ALDS Quick Reference

### Menu Bar 1

|            |                           |
|------------|---------------------------|
| F1 NEXT    | Advance to Menu Bar 2.    |
| F2 MAP DIR | Open Menu Bar 1a.         |
| F3 STATE   | Plot the entire state.    |
| F4 NORTH   | Plot Northern California. |
| F5 CENTRAL | Plot Central California.  |
| F6 SOUTH   | Plot Southern California. |

### Menu Bar 1a

|              |                                |
|--------------|--------------------------------|
| F1 EXIT      | Return to Menu Bar 1.          |
| F2 LIST      | Call up the map directory.     |
| F3 RECALL    | Load a map from the directory. |
| F4 SAVE      | Save a map.                    |
| F5 DELETE    | Delete a map.                  |
| F6 PrintList | Print a copy of the directory. |

### Menu Bar 1b

|             |  |
|-------------|--|
| F1 EXIT     | Return to Menu Bar 1.                          |
| F2 BEG/END  | Set a time frame for strikes plotted.          |
| F3 ALTERNAT | Open an alternate strike file.                 |
| F5 #/TIMES  | Display number of strikes and times.           |
| F6 + AND -  | Plot + and - strikes, only +, only -, or dots. |
| F7 PLOTSTRK | Plot the lightning strikes.                    |

### Menu Bar 2

|             |  |
|-------------|--|
| F1 NEXT     | Advance to Menu Bar 3.                 |
| F2 TICS     | Plot latitude and longitude tic marks. |
| F3 ROADS    | Plot roads.                            |
| F4 STREAMS  | Plot lakes and streams.                |
| F5 USFS     | Plot USFS protection boundries.        |
| F6 COUNTIES | Plot county lines.                     |
| F7 WINDOW   | Open Menu Bar 2a.                      |

### Menu Bar 2a

|              |   |
|--------------|---|
| F1 EXIT      | Return to Menu Bar 2.                         |
| F2 SMALLER   | Make the window smaller.                      |
| F3 LARGER    | Make the window larger.                       |
| F6 REPLOT    | Replot the map.                               |
| F7 FAST/SLOW | Toggle between fast and slow window movement. |

### Menu Bar 3

|             |  |
|-------------|--|
| F1 NEXT     | Advance to Menu Bar 4.                             |
| F2 LANDMARK | Plot landmarks.                                    |
| F3 LOOKOUT  | Plot lookouts and open Menu Bar 3a.                |
| F4 AIR DISP | Plot air bases and heliports and open Menu Bar 3b. |
| F5 WEATHER  | Plot Remote Automatic Weather Stations.            |
| F TOWNS     | Plot cities and towns.                             |

#### Menu Bar 3a

|              |  |
|--------------|--|
| F1 EXIT      | Return to Menu Bar 3.                                |
| F2 MAP       | Return map to screen if dispatch info. is displayed. |
| F3 AIR BASE  | Display airtanker base information.                  |
| F4 HELIBASE  | Display heliport information.                        |
| F6 PRINT     | Send results of F3 or F4 to printer.                 |
| F7 FAST/SLOW | Toggle between fast and slow cursor movement.        |

#### Menu Bar 3b

|              |   |
|--------------|---|
| F1 EXIT      | Return to Menu Bar 3.                           |
| F2 L.O. RPT  | Draw sight lines from lookouts.                 |
| F3 AZIMUTHS  | Azimuths and distances from lookouts to cursor. |
| F4 MAP       | Return map to screen.                           |
| F5 MARK X    | Draw an "X" at the cursor position.             |
| F6 PRINT AZ  | Send azimuth and distance info. to the cursor.  |
| F7 FAST/SLOW | Toggle between fast and slow cursor movement.   |

### Menu Bar 4

|           |  |
|-----------|--|
| F1 NEXT   | Advance to Menu Bar 1.                         |
| F2 LOCATE | Open Menu Bar 4a.                              |
| F6 PRINT  | Send screen to printer.                        |
| F7 QUIT   | Leave ALDS and return to DOS operating system. |

#### Menu Bar 4a

|              |  |
|--------------|--|
| F1 EXIT      | Return to Menu Bar 4.                              |
| F2 MAP NAME  | Display names of USGS maps at cursor location.     |
| F3 LAT/LON   | Display latitude and longitude of cursor position. |
| F4 GEOLOC    | Display GEOLOC coordinates of cursor position.     |
| F5 FIND      | Go to specified latitude and longitude.            |
| F6 MARK X    | Mark an "X" at the cursor position.                |
| F7 FAST SLOW | Toggle between fast and slow cursor movement.      |

